

Annual Peak-Flow Frequency Analysis

For more information on the contents of this documentation, see Kessler and others (2013).

**Streamgauge number and name:**

05048500 Mustinka River, old channel, at Twelvemile Creek mouth, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	12
Systematic period begins	1944
Systematic period ends	1955
Length of systematic record	12
Years without information	0
Number of historical peak flows in record	0

**Frequency analysis options:**

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.24
Standard error of generalized skew	0.427
Low-outlier method	Bulletin 17B Grubbs-Beck test

**Bulletin 17B systematic record analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard		
	Mean	deviation	Skewness
	3.0578	0.4544	0.809

**Outlier criteria and number of peak flows exceeding:**

Low	122.5	0
High	10649.8	1

**Bulletin 17B Final analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard	
Mean	deviation	Skewness
3.0578	0.4544	0.051

**Annual frequency curve at selected exceedance probabilities:**

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	81.1	17.1	183
0.9900	104.0	24.9	222
0.9500	208.0	68.8	388
0.9000	301.0	117.0	529
0.8000	472.0	221.0	789
0.6667	723.0	387.0	1,190
0.5000	1,130.0	665.0	1,920
0.4292	1,360.0	819.0	2,390
0.2000	2,750.0	1,640.0	5,870
0.1000	4,390.0	2,490.0	11,300
0.0400	7,260.0	3,790.0	23,400
0.0200	10,100.0	4,930.0	37,900
0.0100	13,500.0	6,240.0	58,800
0.0050	17,800.0	7,720.0	88,400
0.0020	24,700.0	9,980.0	145,000

**Peak-flow data used in the analysis:**

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1944	1,030	--
1945	480	--
1946	1,250	--
1947	1,500	--
1948	1,320	--
1949	1,280	--
1950	1,100	--
1951	2,800	--
1952	13,700	--
1953	528	--
1954	794	--
1955	178	--